

at least two partition wall elements, which enclose the receiving space and each
- having a membrane, which is permeable to the nutrient medium and are substantially
impermeable to the organic material; and

a carrier element, arranged in the receiving space, which is permeable to the nutrient
medium and is configured as a fabric for an adhesion of the organic material;

wherein

the housing is constructed as a flat cell having annular carrier plates,

the partition wall elements have a supporting fabric, to which the membrane is
applied, and

both the supporting fabric with the applied membrane and the fabric of the carrier
element are each mounted in an annular carrier plate,

18. (New) Bioreactor according to claim 17, wherein the carrier element has a three-
dimensional structure.

19. (New) Bioreactor according to claim 17, wherein the carrier element includes a
textile carrier material.

20. (New) Bioreactor according to claim 19, wherein the textile carrier material is
surface-treated, and a bio-compatible surface is formed with a structure adapted for an
adhesion of the organic material.

21. (New) Bioreactor according to claim 17, wherein a receiving device of the flat
cell is designed circularly.

22. (New) Bioreactor according to claim 17, wherein a number of flat cells are
arranged as modules in one flow direction in at least one of a parallel and serial fashion.

23. (New) Bioreactor according to claim 17, further comprising:

a control device by which at least one of a flow generating device, a temperature adjusting unit, a gasing unit, a degasing unit, and further supply units can be controlled.

24. (New) Bioreactor according to claim 23, further comprising:

a sensor device arranged in one flow direction after the receiving space, by which physical and chemical values of a state of the nutrient medium can be determined; and the sensor device is connected to the control device.

25. (New) Bioreactor according to claim 17, further comprising:

a closed housing in which the receiving device is arranged; and at least one feed and one discharge are provided for the nutrient medium as well as an access for introducing and removing the organic material.

26. (New) Method for cultivating organic material, wherein

a nutrient medium is at least temporarily put into a flow, the organic material is introduced into a receiving device of a bioreactor, the nutrient medium is passed through the receiving device of the bioreactor for a convective supply of the organic material, and

a bioreactor according to claim 17 is used.

27. (New) Method according to claim 26, wherein prior to an inoculation or introduction of the organic material into the receiving device this is sterilized.

28. (New) Method according to claim 26, wherein prior to a removal of the cultivated organic material from the receiving device a medium, in particular an enzyme, is introduced for detaching adhered organic material.

29. (New) Method according to claim 26, wherein the direction of flow of the nutrient medium that is passed through the receiving device is changed during cultivation of the organic material.

30. (New) Method according to claims 26, wherein at least one of a chemical and physical state of the nutrient medium, a stoichiometrical composition, temperature, pressure or rate of flow, are specifically changed during the cultivation.

31. (New) Method according to claim 26, wherein
at least after passing the nutrient medium through the receiving device at least one of chemical and physical values of state of the nutrient medium are measured,
the measured values of state are recorded and analyzed in a control device, and
the measured values of state are employed for controlling the cultivation of the organic material.

32. (New) Method according to claim 26, wherein
the nutrient medium is passed through a number of receiving devices, which are arranged to each other in at least one of a parallel and serial fashion.

IN THE ABSTRACT

Please cancel the original Abstract on page 27 in its entirety and insert therefor:

ABSTRACT

A bioreactor as well as a method for cultivating organic material, in particular cells, by a nutrient medium. For an intensive cultivation of the organic material in a simple and reliable handling a flow generating device is provided in the bioreactor, by which the nutrient medium can be put into a flow. A receiving device is arranged in the flow that is adapted for receiving and/or retaining the organic material, and the receiving device is adapted for passing through the flowing nutrient medium is permeable. In the method the nutrient medium is at least temporarily put into a flow, the organic material, in particular cells, is